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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,024	07/11/2001	James Morgan Murphy	SEA9783/30874.108USU1	9848

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EXAMINER

BEACHAM, CHRISTOPHER R

ART UNIT	PAPER NUMBER
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2653

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DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

54

Office Action Summary	Application No.	Applicant(s)	
	09/903,024	MURPHY, JAMES MORGAN	
	Examiner	Art Unit	
	Christopher R. Beacham	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,11-17,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 7,9,10 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Drawings

1. Figures 2 and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 8, 11, 13, 14, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanrahan (US 5,870,252).

4. Regarding claim 1, Hanrahan shows a disc drive head positioning suspension 10 comprising:

a base 54;

a load beam 12 extending in a first plane having a first end and a second end, a longitudinal axis extending between the first end and the second end of the load beam 12, and a transverse axis extending perpendicular to the longitudinal axis within the first plane; and

a bend section 52 connecting the base 54 to the second end of the load beam, the bend section 52 including a transverse axis 64 aligned parallel to the transverse axis of the load beam 12, and a longitudinal axis parallel to the load beam longitudinal axis;

wherein the bend section 52 comprises a plate having a width and a rail 66 extending along the plate parallel to the transverse axis 64 of the bend section 52, and wherein the rail extends out of the first plane (see attached Figure 2).

5. Regarding claim 2, Hanrahan shows the rail 66 extends in two different planes (Figure 2).

6. Regarding claim 3, Hanrahan shows the rail 66 has a width, a thickness, and a length, and wherein the width of the rail is substantially similar to the width of the base plate (Figure 2).

7. Regarding claim 4, Hanrahan shows the bend section rail 66 extends in a direction substantially normal to the first plane (Figure 2).

8. Regarding claim 8, Hanrahan shows the base plate of the bend section 52 has a thickness and wherein the rail 66 length is substantially greater than the thickness of the bend section (Figure 2).

9. Regarding claim 11, Hanrahan shows the load beam 12 has a width centered about the longitudinal axis, and wherein the rail 66 width is greater than the width of the load beam 12 and no wider than the width of the base plate 18 (Figure 2).

10. Regarding claim 13, Hanrahan shows a suspension member 10 comprising:

a plate 52 extending in a first plane, the plate having a width centered about a longitudinal axis of the plate 52; and

a rail 66 coupled to the plate 52, the rail 66 extending along the plate parallel to a transverse axis 64 of the plate 52; and

wherein the rail 66 extends in a second plane wherein the second plane is different than the first plane (see attached Figure 2).

11. Regarding claim 14, Hanrahan shows the second plane of the rail is perpendicular to the first plane of plate 52 (Figure 2).

12. Regarding claim 19, Hanrahan shows A head suspension comprising:

a base 54;

a load beam 12; and

a bend section 52 having a first end and a second end, the first end being coupled to the load beam and the second end being coupled to the base;

wherein the bend section 52 comprises a plate extending in a first plane and a rail 66 coupled to the plate wherein the rail 66 extends in a second plane wherein the first plane is different from the first plane (see attached Figure 2).

13. Regarding claim 20, Hanrahan shows a suspension member 10 comprising:

a base 54 extending in a first plane:

a load beam 12 extending in a first plane; and

means coupling the base 54 and load beam 12 for maximizing translational stiffness of the load beam 12 in a direction out of the first plane while minimizing rotational stiffness of the load beam 12 (col. 4, lines 9-12).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 5, 6, 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanrahan (US 5,870,252), as applied to claims 1 and 13 above, and further in view of Allen et al. (hereafter Allen) (US 5,894,381).

16. Regarding claim 5, Hanrahan shows all the features except the bend section comprises a second rail, the first and second rails being separated in the longitudinal axis direction of the bend section, the rails forming an open channel.

Allen exhibits a bend section 137 comprises a second rail, the first 343 and second 344 rails being separated in the longitudinal axis direction of the bend section 137, the rails forming an open channel (Figure 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bend section of Hanrahan with a second rail as taught by Allen.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to provide the bend section of Hanrahan with a second rail as taught by Allen in order to provide means for adjusting stiffness (Allen; col. 8, lines 36-41).

Art Unit: 2653

17. Regarding claim 6, Allen shows the cross section of the open channel is substantially U-shaped (Figure 9).

18. Regarding claim 12, Hanrahan shows all the features including the load beam having a width centered about the longitudinal axis. Hanrahan does not exemplify the rail width being less than the width of the load beam.

Allen shows the rail width 343 is less than the width of the load beam (i.e., the section plate 150) (Figure 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the rail width of Hanrahan with a rail width less than the load beam (i.e., section plate) as taught by Allen.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to provide the rail width of Hanrahan with a rail width less than the load beam (i.e., section plate) as taught by Allen in order to provide means for adjusting stiffness (Allen; col. 8, lines 36-41).

19. Regarding claim 17, Hanrahan shows all the features except a second rail being coupled to the plate wherein the second rail extends in a third plane wherein the third plane is different than the first plane. Allen shows the second rail 344 being coupled to the plate 137 wherein the second rail 344 extends in a third plane wherein the third plane is different than the first plane (Figure 9).

20. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanrahan (US 5,870,252), as applied to claim 13 above.

21. Regarding claims 15 and 16, Hanrahan does not set forth the dimensions in these claims. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the rails 66 of Hanrahan with the claimed dimensions through routine experimentation and optimization in the absence of criticality (Hanrahan; col. 6, lines 9-11).

Allowable Subject Matter

22. Claims 7, 9, 10 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Chen et al. (US 6,532,135 B1) is cited to show a suspension load beam for a disk drive actuator.
- b. Mallary (US 6,307,719 B1) is cited to show a suspension assembly with an adjustable gramload.
- c. Wong et al. (US 6,141,187) is cited to show a suspension with reticulated spring portion and pattern etched beam portion.
- d. Hanya et al. (US 6,043,956) is cited to show a suspension for a disk drive.

Art Unit: 2653

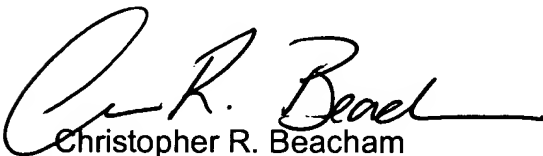
e. Berding (US 5,936,803) is cited to show a disk drive having a mass balanced head gimbal assembly.

f. Kohso et al. (US 5,313,353) is cited to show a magnetic head suspension united support arm with a ribbed cutout.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Beacham whose telephone number is (703) 605-4256. The examiner can normally be reached on M-F, 8: 00 am-5: 30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.



Christopher R. Beacham
Patent Examiner
Art Unit 2653
April 3, 2003



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